REMARKS

Claims 13 is currently canceled, claims 1-10 and 14-16, and 20-25 have been previously canceled, claim 11 is currently amended, and no new claims are added by way of this response. Thus, claims 11-12 and 17-19 are pending and presented for examination. Applicant respectfully requests reconsideration and allowance of the pending claims in view of the foregoing amendments and the following remarks.

Response To Rejections Under Section 103

Claims 11, 12 and 17 stand rejected under 35 U.S.C. § 103(a), the examiner contending that these claims are obvious over Baumann et al. (US 6,050,477) in view of Marcin, Jr et al. (US 5,914,059).

Claims 13 and 18 stand rejected under 35 U.S.C. § 103(a), the examiner contending that these claim are obvious over Baumann et al. (US 6,050,477) in view of Marcin, Jr et al. (US 5,914,059), and further in view of McComas et al. (US 4,705,203).

Claims 13 and 18 stand rejected under 35 U.S.C. § 103(a), the examiner contending that these claims are obvious over Baumann et al. (US 6,050,477) in view of Marcin, Jr et al. (US 5,914,059), and further in view of Pietruska et al. (US 6,503,349).

Claim 19 stands rejected under 35 U.S.C. § 103(a), the examiner contending that this claim is obvious over Baumann et al. (US 6,050,477) in view of Marcin, Jr et al. (US 5,914,059), and further in view of Pietruska et al. (US 6,503,349) and Philip (US 7,416,108).

Claim 19 stands rejected under 35 U.S.C. § 103(a), the examiner contending that this claim is obvious over Baumann et al. (US 6,050,477) in view of Marcin, Jr et al. (US 5,914,059) and McComas et al. (US 4,705,203), and further in view of Philip (US 7,416,108).

Applicant has amended claim 13 to describe the invention more clearly and incorporated the amended claim 13 to independent claim 11. Claim 13 is thereby canceled.

Claim 11 now recites:

"…wherein the solder comprises a first constituent with a melting temperature lower than a melting temperature of the component base material and a second constituent having a high durability and a melting temperature greater than the first constituent melting temperature but

below the base material melting temperature, wherein a first solder composition in which the first constitute makes up a high proportion is applied first, and a second solder composition in which the first constitute is reduced relative to the second constitute is subsequently applied." (Specification paragraphs 00021, 00040-00041, and figure 2).

Regarding claim 13, the Examiner contends that McComas teaches a repair method of a nickel superalloy article; wherein the solder comprises a first constituent (layer 15) with a melting temperature lower than a melting temperature of the component base material and a second constituent (second layer 25) having a high durability and a melting temperature greater than the first constituent melting temperature but below the base material melting temperature, and the solder is applied in the region of the component to be repaired such that the proportion of first constituent in the solder is greater in the vicinity of the base material than in a portion of the component to be repaired further away from the base material (column 2, lines 26-38, column 3, lines 8-40 and column 4, lines 29-55).

Applicant respectfully submits that the cited reference does not teach what the Examiner contends. McComas teaches a layer 15 of superalloy material containing a melt depressant (boron) is applied to the cleaned area (column 3 lines 7-8). Then, a second layer 25 is sprayed over the first layer comprising a superalloy material which will usually be similar in composition to the substrate, but without the melting point depressant and which therefore has a melting point approximating that of the substrate (column 3 lines 26-31). Because of the melt depressant in the first layer, the article can be heated to a temperature where layer 15 melts but substrate 5 and layer 25 do not (column 3 lines 37-41).

In contrast, Applicant claims wherein the solder comprises a first constituent with a melting temperature lower than a melting temperature of the component base material and a second constituent having a high durability and a melting temperature greater than the first constituent melting temperature but below the base material melting temperature. Therefore, the solder comprising the first and the second constituent is melted by the laser beam but the component base material is not melted as claimed in the independent claim 11.

The Examiner further rejects claim 13 in view of Pietruska et al. The Examiner contends that Pietruska teaches a repair method of a nickel superalloy article; wherein the solder comprises a first constituent (layer 15) with a melting temperature lower than a melting temperature of the component base material and a second constituent (second layer 25) having a high durability and a melting temperature greater than the first constituent melting temperature but below the base material melting temperature 9column 3 lines 35-40), and the solder is applied in the region of the component to be repaired such that the proportion of first constituent in the solder is greater in the vicinity of the base material than in a portion of the component to be repaired further away from the base material (column 3, lines 50-colmun 4 line 15, column 3, lines 45-50).

Applicant respectfully submits that the cited reference does not teach what the Examiner contends. Pietruska teaches a repair material preferably comprises a blend of two nickel based alloys – the first being a low melting temperature nickel based brazing alloy and the second being a high melting temperature nickel based alloy. Pietruska further teaches in a first repair alloy blend, the first nickel based alloy is presented in a range of 49-51 wt % and the second nickel based alloy is presented in a range of 49-51 wt %. In a second repair alloy blend, the first alloy is presented in a range of 39-41 wt % and the second alloy is presented in a range of 59-61 wt %. In a third repair alloy blend, the first alloy is presented in a range of 29-31 wt % and the second alloy is presented in a range of 69-71 wt %. In a fourth repair alloy blend, the first alloy is presented in a range of 19-21 wt % and the second alloy is presented in a range of 79-81 wt % (column 3 lines 35-50). The repair alloy applying step comprises applying a blend of nickel based alloys to the component (Pietruska's claims 5-9). Column 3 line 50 to column 4 line 44 of Pietruska only teaches the chemical composition of the first and the second nickel based alloy used in the repair alloy blend.

In contrast, Applicant claims "wherein a first solder composition in which the first constitute makes up a high proportion is applied first, and a second solder composition in which the first constitute is reduced relative to the second constitute is subsequently applied."

In view of the above, Applicant respectfully submits that independent claim 11 is patentable.

Dependent claims 12 and 17-19 are patentable based on their dependency from independent claim 11 as well as based on their own merit. Therefore, Applicant respectfully requests that the Examiner withdraws the Section 103 rejection.

Conclusion

For the foregoing reasons, it is respectfully submitted that rejections set forth in the outstanding Office Action are inapplicable to the present claims and specification. Accordingly, Applicant respectfully requests that the Examiner reconsider the rejections and timely pass the application to allowance. Please grant any extension of time required to enter this paper. The commissioner is hereby authorized to charge any appropriate fees due in connection with this paper, including the fees specified in 37 C.F.R. §§ 1.16 (c), 1.17(a)(1) and 1.20(d), or credit any overpayments to Deposit Account No. 19-2179.

Respectfully submitted,

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